

Alphabetical listing, by scientific name, of plants found at Deal Island, EA Vaughn Wildlife Management Area, and Monie Bay study sites, 2012-2015.

Nomenclature from USDA plants database. Species descriptions from:

- Native Plants for Wildlife Habitat and Conservation Landscaping: Chesapeake Bay Watershed – U.S. Fish and Wildlife Service
- Lady Bird Johnson Wildflower Center: *Peltandra virginica* – The University of Texas at Austin
- *Chesapeake Bay: Nature of the Estuary, A Field Guide* by Christopher P. White
- *Field Guide to Tidal Wetland Plants of the Northeastern United States and Neighboring Canada* by Ralph W. Tiner
- Go Botany - New England Wild Flower Society
- Missouri Botanical Garden
- Carex Classification – NSF – ARTS, The Morton Arboretum, IL, USA

Amaranthus cannabinus, Tidmarsh amaranth of Saltmarsh water-hemp

Atriplex prostrata, Triangle orache

Baccharis halimifolia, Eastern baccharis

Bolboschoenus robustus, Sturdy bulrush or Saltmarsh bulrush

Carex species

Cuscuta gronovii, Scaldweed or Dodder

Cyperus filicinus, Fern flatsedge

Distichlis spicata, Saltgrass

Eleocharis obtusa, Blunt spikerush

Fimbristylis castanea, Marsh frimbry

Iva frutescens, Jesuit's bark or High tide bush

Juncus roemerianus, Black needlerush

Limonium carolinianum, Lavender thrift

Lythrum lineare, Wand lythrum

Phragmites australis, Common reed

Pluchea odorata, Sweetscent or Camphorweed

Salicornia depressa, Virginia glasswort

Schoenoplectus americanus, Charimaker's bulrush or Olney's three-square

Solidago sempervirens, Seaside goldenrod

Spartina alterniflora, Smooth cordgrass or Oystergrass

Spartina cynosuroides, Big cordgrass

Spartina patens, Saltmeadow cordgrass or Saltmarsh hay

Symphotrichum tenuifolium, Perennial saltmarsh aster

Typha species, Cattail

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Big cordgrass, *Spartina cynosuroides*

Black needlerush, *Juncus roemerianus*

Blunt spikerush, *Eleocharis obtusa*

Cattail, *Typha* species

Chairmaker's bulrush or Olney's three-square, *Schoenoplectus americanus*

Common reed, *Phragmites australis*

Eastern baccharis, *Baccharis halimifolia*

Fern flatsedge, *Cyperus filicinus*

Jesuit's bark or High tide bush, *Iva frutescens*

Lavender thrift, *Limonium carolinianum*

Marsh frimbry, *Fimbristylis castanea*

Perennial saltmarsh aster, *Symphyotrichum tenuifolium*

Saltgrass, *Distichlis spicata*

Saltmeadow cordgrass or Saltmarsh hay, *Spartina patens*

Scaldweed or Dodder, *Cuscuta gronovii*

Seaside goldenrod, *Solidago sempervirens*

Smooth cordgrass or Oystergrass, *Spartina alterniflora*

Sturdy bulrush or Saltmarsh bulrush, *Bolboschoenus robustus*

Sweetscent or Camphorweed, *Pluchea odorata*

Tidalmarsh amaranth or Saltmarsh water-hemp, *Amaranthus cannabinus*

Triangle orache, *Atriplex prostrata*

Virginia glasswort, *Salicornia depressa*

Wand lythrum, *Lythrum lineare*

Amaranthus cannabinus, Tidmarsh amaranth or Saltmarsh water-hemp



Salt marsh water-hemp blooming in Somerset Co., Maryland, September 2013. Photo by Jim Brighton.

Saltmarsh water-hemp has a distribution from Maine south along the coast into Florida and west into Louisiana growing in tidal and brackish marshes where it is subjected to daily fluctuations in water levels. Saltmarsh water-hemp is a perennial herb with a hairless stem that may grow up to 8 feet in height. The leaves are alternately arranged, lance-shaped, not toothed on the margin, up to 6 inches in length and 1.5 inches in width, with a well-developed stalk at the base and pointed at the tip. The greenish flowers, appearing from July to September, lack petals and are arranged in elongate spikes at the top of the stem. The male and female flowers occur on separate plants. The individual fruit is sac-like and contains a single seed.

Atriplex prostrata, Triangle orache



Triangle orache in Queen Anne's Co., Maryland, October 2015. Photo by Jim Brighton.

Triangle orache has triangular toothed leaves on a prostrate or erect stem growing to 3 ½ feet. Found in salt and brackish marshes and tidal flats from Newfoundland to South Carolina. Flowers from June to November.

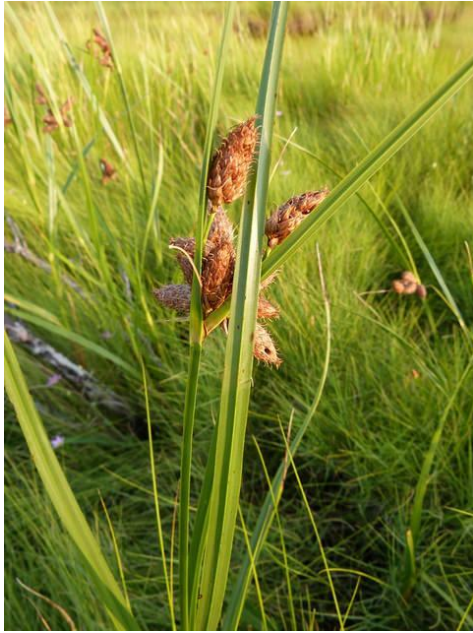
Baccharis halimifolia, Eastern baccharis or Groundsel tree



Eastern baccharis in Talbot Co., Maryland, August 2012. Photo by Jim Brighton.

Eastern baccharis is native to the Atlantic and Gulf coasts of North America from Massachusetts to Texas. A large evergreen shrub or small tree, usually multi-trunked, with brittle wood. Foliage is covered with a white waxy layer, making the leaves look grey; seedlings somewhat resemble lambsquarters (*Chenopodium album*). In the fall and winter, plants may be covered with white to cream colored flower heads. Seeds are shed in late fall or winter and are dispersed by wind. Eastern baccharis provides emergency cover for muskrats, and nesting sites for grackles, redwing blackbirds, and green herons.

Bolboschoenus robustus, Sturdy bulrush or Saltmarsh bulrush



Sturdy bulrush in Dorchester Co., Maryland, July 2014. Photo by Jim Brighton.

Sturdy bulrush is found along the eastern and southern coasts of North America from Nova Scotia south to Florida and along the Gulf coastline to Mexico. It is most often a coastal species, occurring in brackish and saltwater marshes. It is a perennial herb growing from a rhizome system with associated tubers. The erect stems are three-angled with short hairs. They can grow to more than 3 feet tall. The leaves sheath the stem and have long, flat or v-shaped blades. The inflorescence bears one or more clusters of many spikelets as well as long, leaflike bracts. Sturdy bulrush is an important food source for birds and other animals, such as muskrats. Native Americans also used the plants for food, consuming the tubers and young shoots, while the stems were used for basketry, mats, and thatch.

Carex species

With more than 2,000 species, *Carex* are ecologically valuable and found throughout the world in a variety of habitats. A grass like perennial herb of the sedge family, usually clump forming with fibrous roots or rhizomes. The stems are usually erect and triangular with “edges”. Spiked flowers, one in the axil of each of the bracts. Differentiation of *Carex* is extremely difficult because of the large number of species which are similar to one another. Additionally, the reproductive structures that are used to differentiate the species are quite small.

Cuscuta gronovii, Scaldweed or Dodder



Scaldweed on High tide bush, Deal Island, Maryland, July 2015. Photo by Diane Leason.

Scaldweed is an annual parasitic vine that grows to a length of 3 feet or more, entangling itself around the host plant sending out suckers that penetrate the host's tissues. Its stems appear orange-yellow in color. As dodder gets all its nutrient from the host plant, its own roots eventually die. Although it appears to be leafless, it has tiny, alternate, scale-like leaves. The vine produces white flowers with bell-shaped, five-lobed corollas, and sepals united at the base. The flowers are roughly 1/8 of an inch apart from one another. Scaldweed gets its species name (*gronovii*) from the Dutch botanist Jan Frederk Gronovius, the teacher of Linnaeus (inventor of modern systematics).

Cyperus filicinus, Fern flatsedge



Fern flatsedge in Dorchester Co., Maryland, September 2017. Determined by Jim Brighton. Photo by Bill Hubick.

Fern flatsedge grows along the east coast on shorelines, the upper edges of salt and brackish marshes, and intertidal zones. It occurs along the entire eastern seaboard south to Louisiana, and in ditches in the interior US (Illinois). This annual plant produces widely spreading spikes that give rise to fruits in summer.

Distichlis spicata, Saltgrass



Saltgrass growing at E A Vaughn Wildlife Management Area, Worcester Co., Maryland, July 2015. Photo by Andy Baldwin.



Saltgrass is distributed widely across North America. An erect grass grows up to 2 feet tall in salt and brackish coastal marshes. The leaf blades are spreading, crowded, flat, and sharp-pointed. Adapted to salty soils it excretes salts from its tissues via salt glands. Strongly rhizomatous, it can form dense monotypic stands. The hearty root system makes it useful for revegetating saline areas. It is an important food source for geese and other birds.

Eleocharis obtusa, Blunt spikerush



Blunt Spikerush growing in Anne Arundel Co., Maryland (5/27/2011). Determination by M.T. Strong/U.S. Herbarium. Photo by Bill Harms. (MBP list).

A summer annual about 2-10" tall. Each plant produces a single culm or a tuft of culms. Each culm is green, hairless, circular in cross-section (terete), and unbranched. The leaves are reduced to a single sheath at the base of the culm; there are no leaf blades. Habitats include marshes, fens, gravelly seeps, interdunal flats, sedge meadows, shorelines of lakes and ponds, low-areas along rivers, drainage ditches, poorly drained fields, and waste areas that are prone to seasonal flooding.

This is one of the shorter spikerushes (*Eleocharis spp.*). To many people, spikerushes look like grass, but they are actually sedges that consist of naked culms with single scaly flowerheads on top.

Fimbristylis castanea, Marsh fimbry



Marsh fimbry in Dorchester Co., Maryland, July 2014. Photo by Jim Brighton.
Marsh fimbry in Dorchester Co., Maryland, September 2017. Photo by Bill Hubick.

Marsh fimbry commonly grows up to 3 feet in height, forming thick clumps. Its narrow leaves grow from the base of the plant. They are dark brown and sturdy at the base and grow from one half to two thirds of the plant's height in length. Commonly grows in salt marshes, coastal dunes, and brackish marshes along the eastern seaboard to the Gulf of Mexico.

Iva frutescens, Jesuit's bark or High tide bush



High tide bush, Deal Island, Somerset Co., Maryland, July 2015. Photo by Diane Leason.

A succulent, bushy-branched shrub, low growing, woody perennial plant without a central stem, 2-10 feet tall with opposite, pubescent, narrowly lance-shaped leaves. Naturally occurring in tidal brackish and salt marshes above the mean "high tide" towards upland. Similar to *Baccharis halimifolia* but with opposite leaves.

Juncus roemerianus, Black needlerush



Black needlerush among saltmeadow cordgrass in Somerset Co., Maryland, January 2013. Photo by Bill Hubick.

Black needlerush is a moderate growing, bunch forming, grass-like perennial. It is coarse and rigid appearing to be leafless however, the sharp pointed stems are actually stiff leaves rolled tightly forming pointed cylinders. It is gray-green in color appearing black in the distance. Black needlerush is one of the dominant species in the marshes on the Atlantic and Gulf coasts. Its distribution is continuous from Maryland to Florida and westward to southwestern Texas. It is usually restricted to coastal marshes and estuaries. This is a common and ecologically important plant providing cover for a number of salt marsh animal species. Birds such as the long-billed marsh wren, clapper rail, and seaside sparrow nest in it. A number of fungal species grow on this rush, some exclusively.

Limonium carolinianum, Lavender thrift



Lavender thrift on Assateague Island, Worcester Co., Maryland, August 2009. Photo by Jim Brighton.

A strikingly showy perennial in late summer found in intertidal brackish or salt marshes, flats, and coastal beaches. Salt glands on their leaves permit sea-lavender to withstand saline environments. Small pale purple flowers bloom along 1 side of smooth stems, forming a diffuse branching cluster. Flowers from July-October and its stalks are often harvested for making wreaths. Unfortunately, this can deplete populations of this rather slow-growing plant.

Lythrum lineare, Wand lythrum



Saltmarsh loosestrife, Monie Bay, Somerset Co., Maryland, July 2015. Photo by Andy Baldwin.

Saltmarsh loosestrife is native to salt, brackish, and tidal fresh marshes along the Atlantic coast New York to Florida and west to Texas. It is a medium-height erect perennial herb growing to 5 feet tall. Flowers are white or light purplish tubular flowers born singly in leaf axils of flowering branches blooming July through October.

Phragmites australis, Common reed



Common reed in Dorchester Co., Maryland, July 2017. Photo by Jim Brighton.

Common reed is a tall erect perennial grass, reaching 20 feet tall, found in temperate regions throughout the world. Common reed is widespread in North America growing in both estuarine intertidal and palustrine persistent emergent wetlands. It can grow in damp ground, in standing water up to 3 feet deep, or even as a floating mat. Common reed spreads by clonal growth via stolons and rhizomes, and produces dense monotypic stands outcompeting native vegetation and lowering local plant biodiversity.

For more information see http://dnr.maryland.gov/wildlife/Pages/plants_wildlife/Phragmites.aspx

Pluchea odorata, Sweetscent or Camphorweed



Blooming sweetscent in Worcester Co., Maryland, July 2012. Photo by Jim Brighton.

Naturally found in fresh and salt marshes it is an attractive plant adapted to a wide variety of soils and sites. The foliage is very aromatic with a strong camphor-like smell. Sweetscent is an annual or perennial herb usually 8- to 36 inches tall. The toothed oval leaves are up to 5 inches long and alternately arranged on the stiff stems. The inflorescence is a large cluster of many flower heads filled with bright pinkish-purple or magenta flowers August to October.

One of few plants that exhibit "crystallofolia" (frost flowers or ribbons), unusual feathery or ribbon-like ice formations that sometimes appear on a plant during frost events, due to water being emitted along the stem or near the base of the dormant plant during freezing. In some parts of the Caribbean, saltmarsh fleabane is a widely consumed medicinal herbal tea. The hot tea made from the leaves is a stimulant.

Salicornia depressa, Perennial glasswort



Virginia glasswort in Somerset Co., Maryland, August 2013. Photo by Jim Stasz.

Virginia glasswort is found on the east and west coasts of North America occurring in salt marshes (usually in sandy pannes), salt flats, and mangrove swamps. It is an erect to prostrate low-growing mat-forming perennial herb growing to 12 inches tall. Their simple or branched stems are succulent, glabrous, and jointed. The stems have the ability to store a large volume of water, which helps the plant maintain a critical water balance, necessary because of the salty soil in which it grows. The stem often turns red in autumn, forming masses of color in the salt marshes. The stems are edible raw, cooked, or pickled. The ashes of burnt plants are used in making glass and soap.

Schoenoplectus americanus, Chairmaker's bulrush or Olney's three-square



Chairmaker's bulrush in Dorchester Co., Maryland, May 2015. Photo by Jim Brighton.

Chairmaker's bulrush is a member of the sedge family native to the Americas, where it is known from Alaska to Nova Scotia and all the way into southern South America; it is most common along the East and Gulf Coasts of the United States and in parts of the western states. It grows in many types of coastal and inland wetland habitat, as well as sagebrush, desert scrub, chaparral, and plains. This rhizomatous erect perennial herb grows to 7 feet tall. Its stiff stems are sharply three-angled and deeply concave between the edges. Its small budlike spikelets are all gathered along one side of the stalk near the top. The plant reproduces sexually by seed and colonies spread via vegetative reproduction, sprouting from the rhizomes. The plant is a food source of muskrat, nutria, and is strongly favored by the snow goose in its wintering grounds. Native American groups used this plant for many purposes, including food, basketry, and hat making. It is used for revegetation projects in salt marsh habitat in its native range.

Solidago sempervirens, Seaside goldenrod



Seaside goldenrod in Somerset Co., Maryland, October 2016. Photo by Kirsten Johnson.

Seaside goldenrod is native to eastern coastal areas stretching from Newfoundland to Texas. An erect perennial herb usually 4 to 5 feet tall with large, golden yellow flower clusters that bloom in late summer and autumn. Leaves are often toothless, hair-less leaves, thicker than those of most other *Solidago* species. Flower heads are found in a large paniculiform inflorescence at the top of the plant, often with branches that bend backwards towards the base. A major food source for fall migrating monarch butterfly; also provides benefits to native wildlife such as songbirds, butterflies, and small mammals.

Spartina alterniflora, Smooth cordgrass or Oystergrass



Smooth cordgrass, Deal Island, Somerset Co., Maryland, July 2015. Photo by Andy Baldwin.

Smooth cordgrass is found along the eastern seaboard of North America from Newfoundland and Quebec to northern Florida, and in the Gulf of Mexico from Florida to southern Texas. A perennial deciduous grass which is found in intertidal wetlands, especially estuarine salt marshes. Smooth cordgrass grows in two forms: a short form that grows in the high marsh to 2 feet tall, and a tall form that can reach 7 feet tall in the low marsh, but it is usually restricted to low marsh because it is outcompeted by salt meadow cordgrass in the high marsh. Its stems are round and hollow with sharply tapered leaves that bend down at their tips. It produces flowers and seeds on only one side of the stalk. The flowers are a yellowish-green, turning brown by the winter. It has rhizoidal roots, which, when broken off, can result in vegetative asexual growth. Grows in a wide range of salinities as it is able to excrete salt; salt crystals can be seen on its leaves during the growing season. This grass can be used to control shoreline erosion. It also provides important habitat for marsh periwinkles, ribbed mussels and fiddler crabs. The roots are an important food resource for snow geese. .

Spartina cynosuroides, Big cordgrass



Big cordgrass in Kent Co., Maryland, October 2015. Photo by Jim Brighton.

Big cordgrass is found in tidal wetlands, brackish to fresh, from New England to the Gulf Coast. A tall erect perennial grass reaching 10 feet high. Stems are round and hollow with elongate leaves that taper to a point. Dense stands provide cover and food for wildlife. Geese often eat the large rhizomes and muskrats use stems and leaves for material in lodge construction. Duck hunters use big cordgrass as camouflage for duck blinds.

Spartina patens, Saltmeadow cordgrass or Saltmarsh hay



Saltmeadow hay, Deal Island, Somerset Co., Maryland, July 2015. Photo by Andy Baldwin.

Saltmeadow cordgrass is a native perennial grass 8 to 16 inches tall in irregularly flooded areas of salt and brackish marshes along the Atlantic coast. Saltmeadow cordgrass has drooping, wiry, dark green leaves that grow 2 to 4 inches in length. Spikes of tiny, overlapping florets bloom in June to October. It spreads extensively by long slender rhizomes forming thick mats. Because its stems are weak, the wind and water action can bend the grass, creating the appearance of a field of tufts and cowlicks. Salt hay grass is found in high marsh zones where it is covered at times by high tides. Specialized cells are able to exclude salt from entering the roots, preventing the loss of fresh water.

Symphyotrichum tenuifolium, Perennial salt marsh aster



Perennial saltmarsh aster blooming in Somerset Co., Maryland, August 2013. Photo by Jim Stasz.



Perennial saltmarsh aster blooming in Monie Bay, Somerset Co., Maryland, July 2015. Photo by Diane Leason.

Perennial saltmarsh aster is a perennial herb, 6 inches to 4 feet tall, found in New Hampshire to Florida and Texas in salt and brackish marshes. One to three stems with a zigzag pattern with daisy-like flowers and either white or purplish to bluish petals. It has fibrous roots and creeping rhizomes that forms conspicuous masses in the brackish tidal marshes where all other large-flowered species are absent.

Typha species, Cattail

There are three species of cattail found in the Mid-Atlantic region - broad-leaved cattail (*Typha latifolia*), narrow-leaved cattail (*Typha angustifolia*), and hybrid cattail (*Typha x glauca*). In general, cattail is an erect perennial with linear basal leaves along the stem. The flowers are borne on long stalk and arranged in cylinder-shaped spike or "tail". Cattails form dense colonies in areas where the soil remains wet or flooded during the growing season and can tolerate a range of salinities from fresh to brackish waters. Species of cattail vary by leaf color, height, and placement of male and female spikes.

Cattail are frequently eaten by wetland mammals such as muskrats, that also use them to construct feeding platforms and dens, providing nesting and resting places for waterfowl.